

Remarks

In the present application, a notice of appeal and an appeal brief were filed in response to the final Office action mailed April 18, 2003 (Paper No. 8). The current Office action (Paper No. 15, mailed February 26, 2004) is a further non-final action effectively removing the case from appeal. In response to this non-final action, the case has again been reviewed, and amendments have been made in several of the claims to enhance clarity and to provide additional limitations further distinguishing the cited art.

In the current Office action (of February 26, 2004), Claims 1-3, 5-10, 12-14, 16-22, 24-37, and 45 were rejected; Claims 38-43 were objected to but were considered allowable if rewritten in independent form; and new Claims 46-49 have been added. Amendments have been made in several of the pending claims to enhance clarity and to provide additional limitations further distinguishing the claims over the cited art. Reconsideration of the claims at issue in light of the amendments and the following remarks, along with consideration of new claims 46-49, is respectfully requested.

In the remarks to follow, Applicants have first provided a summary of the various amendments made in several of the claims by the present response and a discussion of their significance. Subsequently, the rejections under 35 U.S.C. 103(a), including the combination of the Uotila and Terio references, are addressed. Finally, for ensuring that this paper is fully responsive to the various grounds for rejection, the rejections of individual claims, including the rejections under 35 U.S.C. 102(b), are respectively addressed. Except as specifically noted herein, Applicants continue to maintain the positions set forth in Applicants' appeal brief and previous amendments, based on the legal principles and authorities cited therein. Accordingly, although the previous remarks and arguments are not repeated in detail, they are considered applicable and are asserted with respect to the legal issues previously discussed in Applicants' appeal brief. However, as will be noted hereinbelow, the limitations currently entered in several of the claims are believed to further distinguish the claims over the cited art and clarify the novel, non-obvious aspects.

Claims 1-3, 5-10, 12-14, 16-22, and 24-32 were rejected under 35 U.S.C. 103(a) as being obvious in view of Uotila (U.S. Patent No. 5,310,277) in combination with Terio (U.S. Patent No. 4,780,020). As will be discussed in detail below with reference to the respective claims, the current amendments to Claims 1, 5, 10, 16, and 22 are believed to entail further limitations that render the claims clearly distinguishable over the cited art, and reconsideration of the claims, and those dependant thereon, is respectfully requested.

As an initial overview of the rejection under 37 U.S.C. 103 of Claims 1, 5, 10, 22, and 24, Uotila was held to disclose a method and device for impeding motion of a land vehicle comprising the elements claimed, except that Uotila failed to disclose the “first sacrificial panel” as recited in Applicants’ Claims 1, 10, and 22, having a smooth surface on one side, and a second sacrificial panel as recited in Applicants’ Claim 6. It was further stated that:

“It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the barrier of Uotila to include first and second sacrificial panels sandwiching the net therebetween as taught by Terio and includes a smooth surface on one side of the first sacrificial panel, since Terio states in column 5, lines 1-8 that the panels would not only make the gate more pleasing to look at but would hide the functioning components of the barrier from view to protect the from weather and scrutiny by potential terrorist....”

In summary, and as will be discussed below, it is respectfully asserted that this rationale is not applicable or supportive of the combination of the two cited references in view of the teachings of the two references themselves. Additionally, in view of the newly entered amendments, the claims at issue are believed to be clearly distinguished over both Terio and Uotila, alone or in any combination, and no matter how broadly the wording of the claims is interpreted. For convenience, the following is a listing of the currently amended claims and a summary of the newly added limitations. Issues relating to the rejections under 35 U.S.C. 103(a) and 35 U.S.C. 102 will be discussed in greater detail in the sections to follow.

Current Amendments

The newly added claim limitations include the following:

## Claim 1.

Claim 1, as presently amended, recites:

A deceleration – limiting barrier adapted to be installed alongside a vehicular roadway for protecting occupants of vehicles that collide with the barrier, comprising:  
a net;  
anchors;  
a flexible strip arranged a flexible strip arranged to secure the net to the anchors, with portions of the strip joined together in a manner as to be susceptible to being pulled apart under a load that is less than a load capacity of the strip; and  
a first sacrificial panel adapted to extend alongside the vehicular roadway and comprising means for holding ~~adapted to hold~~ up the net in a vertical position.

The amendments to Claim 1 include specific reference to the purposes of the invention and the context in which it is applied, e.g., a deceleration-limiting barrier is adapted to be installed alongside a vehicular roadway for protecting the occupants of vehicles that may collide with the barrier. (Support for this language may be found in Applicants' specification, e.g., at page 5, line 14 to page 6, line 2, page 6, lines 3-5, page 3, line 20 et seq., and in Applications drawings.) The barrier is defined as a means for providing controlled deceleration of vehicles traveling along a roadway and for protecting the occupants thereof. The purpose and function of Applicants' claimed system differ substantially from those of the Terio system, which is a means for protecting buildings and personnel behind the barrier rather than for protecting the vehicular occupants. The significance of this distinction will be further discussed below.

A further substantive amendment to Claim 1 is the definition of the first sacrificial panel as “adapted to extend along the vehicular roadway” and comprising “means for holding up the net in a vertical position.” (See Applicants' specification, e.g., page 10, lines 19-21.) Nothing in either of the references teaches or suggests the use of a first sacrificial barrier extending alongside a vehicular roadway that comprises a “means for holding up a net”, secured to anchors and a flexible strip, etc. To assert that Terio's teachings would suggest such a combination with Uotila is to ignore the

description given by Terio with respect to its decorative panel (40), which is specifically described as being for aesthetic purposes for hiding the (other) functional elements of the Terio barrier. Clearly, Applicants' structure as defined in newly amended Claim 1 would not be suggested by either of the cited references, and the language of Terio's specification teaches against such a combination in that it clearly distinguishes the "decorative" panel (40) from "functional" elements. Additionally, as will be discussed further, with or without such a panel, Terio has no relation to or interest in providing a barrier for "protecting occupants of vehicles that collide with the barrier," as claimed in Applicants' Claim 1, and also, as discussed in Uotila with respect to the Uotila vehicle capture system. Instead, Terio teaches that the barrier of Terio is for protecting property and personnel from terrorists within the vehicle, and for stopping such vehicles dead in their tracks. (In contrast to Applicants' "deceleration – limiting barrier." Thus, the Examiner's position that it would be obvious to one skilled in the art to combine the teachings of Terio, regarding the use of a decorative panel for covering the functional elements of a Terrorist barrier (the shield of Terio having no functional purpose), with the Uotila patent, which includes no suggestion whatsoever of the need for or use of such a shield (whether decorative or functional), is respectfully traversed.

#### Claim 5.

Claim 5 as presently amended is dependent on Claim 1, and therefor incorporates all the limitations set forth in Claim 1, and is further distinguished over the cited references in its recitation that the "first sacrificial panel comprising means for deflecting vehicles that collide only tangentially with the deceleration-limiting barrier." Nothing in either of the references suggests or teaches such a structure. Moreover, nothing in the references suggest the possibility of reconstructing the barriers of Uotila or Terio to incorporate such a means for deflecting vehicles. The significance of this limitation will be further discussed hereinbelow. Support for the additional terminology may be found in Applicants' specification at page 3, lines 8-10, and page 13, lines 5-11.

#### Claim 10.

The amendment to Claim 10 ("a first sacrificial panel, comprising means adapted to hold up the means for receiving and retaining the moving body") is substantially analogous to that discussed

above with respect to Claim 1. Nothing in either of the references teaches or suggests such a means adapted to hold up a means for receiving and retaining a moving body.

Claim 16.

As presently amended, Claim 16 recites the “first sacrificial panel comprising means for deflecting vehicles that collide only tangentially with the deceleration-limiting barrier.” The amendment to Claim 16 is analogous to that incorporated in Claim 5, as discussed above.

Claim 22.

As amended, Claim 22 incorporates further limitations as set forth below:

22. A method of decelerating a vehicle moving along a vehicular roadway~~body~~, comprising:

- supporting a net with a first sacrificial panel that is also capable of deflecting moving ~~vehicles~~~~bodies~~ colliding tangentially therewith;
- breaking away the first sacrificial panel;
- receiving the moving ~~vehicle~~~~body~~ in the net;
- deploying a plurality of energy absorbing straps attached to the net;
- decelerating the moving ~~vehicle~~~~body~~ using the energy absorbing straps; and
- limiting the deceleration of the moving ~~vehicle~~~~body~~ to a level below a predefined maximum deceleration level safe for occupants of the vehicle.

The modifications entered in Claim 22 recite more distinctly the novel method of decelerating a vehicle but also limiting the deceleration to a maximum deceleration level safe for occupants of the vehicle (in contrast with the terrorist barrier of Terio which stops the vehicle dead in its tracks.) The Claim is clearly distinguished over Uotila in its recitation of a first sacrificial panel that is also capable of deflecting moving vehicles colliding tangentially therewith. Support for these limitations is found in Applicants’ specification, e.g., at page 3, lines 15-19, and page 5, line 20 through page 6, line 2.

Claim 33.

Amendments newly entered in Claim 33 make more definite the fact that the “flexible, energy absorbing strap which is connected intermediate the receiving means and the anchoring means for

receiving forces exerted longitudinally along the length of the strap” is the same strap which is folded upon itself to form at least one loop of mutually adjacent, doubled lengths of straps...” The Claim is thus clearly distinguished over the Uotila reference, in that the braking devices used in Uotila are clearly not the same thing as the head ropes and foot ropes (column 3, lines 38-50 of Uotila) to which they are connected.

#### Claim 36.

Claim 36 was amended to recite, regarding the at least one flexible, energy absorbing strap and having a plurality of loops formed therein and mutually spaced along the strap, that the mutually spaced loops are “interconnected by unstitched portions of the strap.” This construction is shown in Applicants’ drawing at Figure 3A, wherein the loops 12 are shown to be interconnected by unstitched portions of the strap 10. Thus, as now presented, the claim is clearly distinguished over the Uotila reference, in which no suggestion or teaching of such a construction is made. Instead of a continuous strap having multiple loops formed therein, Uotila teaches the use of separate ropes connected to opposite sides of independent braking devices. The difference is clearly shown by a comparison between Applicants’ drawings and those of Uotila, and Applicants’ claimed combination provides a novel construction having obvious technical advantages such as light weight and compact, simplified construction. The claim is clearly distinguished over the art, and its allowance is respectfully requested.

#### Claims 46-48

Claims 46-48 are dependent from Claim 36 and are believed allowable for essentially the same reasons provided above with respect to Claim 36. They are further distinguished over the cited art in their recitation of further details of the construction and assembly of the strap, in arrangements not shown or suggested by the cited art.

#### Claim 49.

Claim 49 is a further independent claim incorporating limitations such as those discussed above with respect to 5. As highlighted below: the claim elements include the following:

a first sacrificial panel adapted to extend alongside the vehicular roadway and comprising means for holding up the net in a vertical position, the first sacrificial panel having a smooth surface adapted to face the vehicular roadway, the panel comprising means for deflecting vehicles which collide only tangentially with the panel.

The significance of these distinctions was discussed above, e.g., with respect to Claims 1 and 16.

In summary, the above noted amendments, considered in context and in combination with the combinations of elements previously claimed, add further limitations and are clearly distinguished over the cited art, either alone or in any combination. It is again respectfully noted that the respective claims should each be considered independently and as a combination of elements as recited in the respective parent and dependent claims, and that patentability of the claims should not be based merely on consideration of the newly added elements independently of or apart from the other elements of the claimed combinations. Reconsideration of the above-cited claims, along with the respective claims dependent therefrom, is respectfully requested.

As noted above, it is believed that the arguments presented in Applicants' brief and previous amendments with respect to the rejections under 35 U.S.C. 103(a) and 35 U.S.C. 102 remain valid, and that the legal authorities and principles discussed in Applicants' appeal brief and previous amendment are legally sound and applicable relative to the grounds for rejection presented in the current Office action with respect to the claims at issue. The following remarks present an overview of Applicants' position relative to the two grounds for rejection, and reference is again made to the detailed analysis found in Applicants' brief.

**RESPONSE TO REJECTION OF CLAIMS 1-3, 5-10, 12-14, 16-22, AND 24-32 UNDER 35 U.S.C. 103 (A)****STATEMENT OF APPLICABLE LAW**

The standard provided by the U.S. Supreme Court regarding obviousness is found in *Graham v. John Deere*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966). In applying the *Graham* factors, an examiner must apply the following tenets:

- (A) the claimed invention must be considered as a whole;
- (B) the references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;
- (C) the references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and
- (D) reasonable expectation of success is the standard with which obviousness is determined.

*Hodosh v. Block Drug Co., Inc.*, 786 F.2d 1136, 1143 n.5, 229 U.S.P.Q. 182, 187 n.5 (Fed. Cir. 1986); M.P.E.P. §2141.

To reject claims of an application under 35 U.S.C. § 103(a), an examiner has the burden of establishing an unrebutted *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, a patent examiner must show: (1) a suggestion or motivation to modify and/or combine the references, (2) a reasonable expectation of success, and (3) the prior art must teach or suggest all the limitations of the rejected claim. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991), *see also*, M.P.E.P. §§2142-3. *See In re Deuel*, 51 F.3d 1552, 1557, 34 U.S.P.Q.2d 1210, 1214 (Fed. Cir. 1995). In the absence of a proper *prima facie* case of obviousness, an applicant who complies with the other statutory requirements is entitled to a patent. *See In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992).

That references can be combined or modified, without a suggestion of the desirability of such combination and/or modification, does not support an obviousness rejection. *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990). "The level of skill in the art cannot be relied upon to provide the suggestion to combine references." M.P.E.P. § 2143.01 (citing *Al-Site Corp.*



*v. VSI Int'l Inc.*, 174 F.3d 1308, 50 U.S.P.Q.2d 1161 (Fed. Cir. 1999)). In other words, the absence of an objective suggestion to combine in the prior art references is dispositive of an obviousness determination. See *Gambro Lundia AB v. Baxter Healthcare Corp.*, 110 F.3d 1573, 1578-79, 42 U.S.P.Q.2d 1378, 1383 (Fed. Cir. 1997).

Furthermore, the motivation to modify or combine the teachings of the prior art must be identified in making and sustaining an obviousness rejection. See *In re Rouffet*, 149 F.3d 1350, 47 U.S.P.Q.2d 1453 (Fed. Cir. 1998) (reversing an obviousness rejection for lack of identification by the Examiner and the Board of motivation to combine prior art references).

#### Combination of Terio and Uotila

A substantive issue, as discussed in detail in the appeal brief and in the previous amendment, is whether it was legally appropriate to combine the Uotila and Terio references pursuant to the rejection under 35 U.S.C. 103(a). In summary, it is respectfully maintained that there is no teaching or suggestion in either of the two references that they could or should be combined. In fact, a careful reading of both references reveals that they actually teach away from such a combination. This is particularly the case with respect to the above-discussed claims which, as amended, now recite that the first sacrificial panel comprises a means for holding up the net, or for holding up the means for receiving and retaining the moving body. No such element is shown or suggested in either of the cited references.

It is believed helpful to consider briefly the nature and purpose of the structures of Terio and Uotila. Whereas the Uotila patent is for a means for decelerating and capturing a moving vehicle in a net as part of a police roadblock or the like, the Terio patent, as discussed above, is for a “Terrorist Vehicle barrier” for the purpose of safeguarding buildings and personnel from terrorists (rather than protecting the terrorists from injury) who use the technique of “loading a vehicle with explosives and driving the vehicle at high speed into a building or installation to blow it up and, at the same time, kill as many people as possible.” As stated in Terio (at column 4, lines 36-39), “extremely high initial peak loads are required to initiate buckling of the cell walls (column 4, lines 36-39). This is in direct contrast with the stated purpose and function of Applicants’ invention, wherein the provision of a decelerative force of constant level is provided

for the protection of the vehicle passengers, and it is also foreign to the net and decelerative braking structure of Uotila. Terio further states, at column 5, lines 9-15, that “An important advantage of the present design is the relatively easy repairability of the gate should it be impacted by a high speed vehicle. – The I-beams returned easily to their below ground position.. In contrast, according to Terio, “Prior gates and barriers can be completely destroyed upon impact by a heavy speeding vehicle and must be entirely replaced.” (column 21-28). These statements from the Terio patent differentiating the Terio structure from other barriers actually apply to the operation of Applicants’ barrier system, as may be seen from Figures 8C and 8D of Applicants’ drawings, in which the destruction of the upright panels are illustrated. Thus, Terio in essence actually distinguishes his own system from systems such as Applicants’. As further stated in Terio in the Objects of the invention found in the SUMMARY OF THE INVENTION (set forth at lines column 1, lines 37 to 48 of Terio), the objects of the Terio invention are as follows:

“It is an object of the invention to provide a shock absorbing structure for a vehicle barrier capable of stopping a high speed, heavily loaded vehicle in its tracks, unlike many prior barriers which allow a major portion of the speeding vehicle to pass over or through the barrier a significant distance beyond the barrier to eventually contact the structure to be protected.

The above-cited statements in Terio are relevant to the issue of whether the combination of Terio and Uotila is suggested in the art in that they emphasize the diametrically differing functions and operation of the two references, and further for the reasons discussed below relative to the rejection under 35 U.S.C. 103.

Regarding claims 1, 5, 6, 10, 22, and 24, the Examiner stated that *Uotila* discloses a method and device for impeding motion of a land vehicle comprising:

- A net (or means for receiving and retaining the moving body), seen as net (1) in Figs. 1, 4, and 5

- Anchors (or means for anchoring the receiving and retaining means), seen as anchors (3) in Figs. 1 and 4
- a flexible strip [a head rope or foot rope] arranged to secure the net to the anchors (or means for decelerating the moving body in a controlled manner), seen as brakes (4, 5) in Figs. 1 and 4-7, which are described by *Uotila* as discardable fabric brakes formed of one or several ribbons which have been woven or stitched together over a certain length, so that ribbons are forced to be torn apart when pulled (*Col. 2, lines 40-65*).

As discussed above with respect to Claim 1, each of pending claims 1-3, 5-10, 12-14, 16-22, 24-32, and 49, as presently amended, comprises a sacrificial panel, which is not disclosed or taught by *Uotila*. Further, the panel is now defined as means for holding up the net, and nothing in *Uotila* or *Terio* suggests the use of a structural or solid panel to hold up the net in a vertical position. Indeed, the use of a solid form, such as claimed in each of these claims, is counterintuitive inasmuch as solid forms are perceived of defeating one of the purposes of the invention, to wit, to provide a constant level of deceleration. Nevertheless, the Applicants have found that the sacrificial panel can provide sufficient support while not inducing a significant non-constant rate of deceleration. Accordingly, withdrawal of this rejection is respectfully requested

Regarding the Examiner's contention that a combination of the references is appropriate because:

"It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the barrier of *Uotila* to include first and second sacrificial panels sandwiching the net therebetween as taught by *Terio* and includes a smooth surface on one side of the first sacrificial panel, since *Terio* states in column 5, lines 1-8 that the panels would not only make the gate more pleasing to look at but would hide the functioning components of the barrier from view to protect the from weather and scrutiny by potential terrorist...."

...it is respectfully noted that the Examiner has provided no support or rationale for this conclusion. Specifically, the fact that Terio states that the panels would:

- (1) make the gate more pleasing to look at
- (2) hide the functioning components of the barrier from view
- (3) to protect the [gate] from weather and scrutiny by potential terrorist.

Has no relevance to whether a combination of the references, which would require reconstruction of the Uotila structure in accordance with Applicants' claimed subject matter, is suggested by either of the cited references without the benefit of hindsight from Applicants' own teachings. There is no motivation in Uotila for incorporating a panel of any kind, let alone a sacrificial panel.

Although Claim 1 is believed clearly distinguished over the references in view of the newly added limitations, it is also believed to be distinguished over the references in its original form. In this regard, regarding the term "sacrificial panel," it has been suggested that, during examination of an application in the USPTO, claim terminology must be given its broadest conceivable interpretation, and since the sacrificial panel as claimed in Applicants' claim and the decorative panel of Terio are both "panels," the Terio panel may be considered essentially the same as that of Applicants' claims. However, that is not in compliance with the MPEP, and it is directly contrary to the interpretive standards established through the weight of court decisions regarding the matter. As stated in MPEP Section 2111, the claim terminology must be given their ordinary and customary meaning in light of the specification. Further, it is not permissible for the Examiner to assign any interpretation that might be possible from dictionary definitions. Instead, the terms must be interpreted in context, in light of Applicants' specification and drawings, and in accordance with the interpretations commonly used in the art. Thus:

"It is the use of the words in the context of the written description and customarily by those skilled in the relevant art that accurately reflects both the "ordinary" and the "customary" meaning of the terms in the claims." [MPEP Section 2111.01]

In the context of Applicants' specification, as has been discussed at length in Applicants' brief and prior amendment, the term sacrificial panel is used in a context far removed from that of the decorative panel of Terio. (Again, as presently amended, the claim includes further terminology that distinguishes the cited art even more clearly.)

Pursuant to discussion above of the function and applications of the two references, the differences in purpose and application are relevant to the question of whether the combination of references was legally appropriate, since they demonstrate that the function and purpose of the Terio terrorist barrier differs substantially from that of Uotila. For example, protection of the passengers (terrorists) is clearly of no concern to and in fact would not be possible with the Terio barrier. Further, the Terio apparatus clearly could not be characterized as a "deceleration – limiting barrier, as claimed by Applicants and as shown in Uotila. Thus, the Terio and Uotila references are for fundamentally different structures and applications, and their combination would not be suggested to one in the art.

Another reason that the combination was not suggested is that there is no need for or use of such a decorative panel in the Uotila system, the primary functions of which relate to roadblocks, police enforcement, etc., as discussed and shown in the Uotila patent. – The Examiner's statement that it would have been obvious to modify the barrier of Uotila to include first, or first and second sacrificial panels as taught by Terio "since Terio states that "the panels would not only make the gate more pleasing to look at but would hide the functioning components from view to protect them from weather and scrutiny by potential terrorists," is simply not consistent with or supported by the teachings of the two references and is contrary to well-established legal principles regarding such a combination, for the reasons discussed above and in the initial discussion of Claim 1. The teachings of Terio regarding the panel (40) are not applicable to or relevant to the Uotila patent, since the appearance of the barrier of Uotila (the primary disclosed use of which is as a barrier set up only temporarily in law enforcement applications) is of no concern whatsoever to Uotila. Moreover, there is no suggestion in Uotila that there is any need to hide the barrier of Uotila from terrorists, as in Terio. It is thus

respectfully contended that no suggestion for such a combination is present in either of the references, and that the only possible suggestion for such a combination is based on hindsight, from Applicants' own teachings.

With respect to the assertion that claims 4-6, 15-17, 23 and 24 are obvious over Uotila in view Terio, Applicants would reassert the prior legal grounds for traversing that rejection. It is again noted that the barrier of Terio is for the purpose of "stopping a high speed, heavily loaded vehicle *in its tracks*." See Terio, col. 1, lines 37-40 (emphasis added). Terio goes on to distinguish other barriers which permit the "vehicle to pass over or through the barrier a significant distance beyond the barrier." See Terio, col. 1, lines 40-43. Thus, Terio is unconcerned with the safety of the occupants of the vehicle. Rather, the invention of Terio specifically uses a non-constant rate of deceleration.

In contrast, Applicants' invention is geared toward providing a method to more slowly decelerate a vehicle, at a constant deceleration, at a rate which will prevent injury to the occupants of the vehicle. See Applicants' specification at page 2, That is, Applicants' invention is the *antithesis* of that of Terio. To that end, the Applicants' invention utilizes constant deceleration by way of flexible strips. Furthermore, the sacrificial panel is such as to NOT cause a non-constant deceleration event.

As noted above, the use of the (aluminum) panel in Terio is to hide the unsightly barrier. Because Terio has no concern for safety, a honeycomb aluminum panel is used as a braking device to suddenly stop the terrorist vehicle, and the decorative panel is used solely for aesthetic purposes. In contrast, the use of the sacrificial panel of the claimed invention is to hold the net in a vertical position.

Because the goals of the inventions of Applicants and Terio are thus directly contrary, one of ordinary skill in the art would not look to Terio for means to hold up the net, as claimed. Although the Examiner asserts that it would have been obvious to use panels as in Terio with the barrier of Uotila in order to protect the from weather and scrutiny by potential terrorist is contradicted by the fact that, no suggestion is found anywhere in Uotila that the barrier needs to be or should be protected from the weather, or from scrutiny of terrorists. Thus, the Examiner has failed to show any motivation whatsoever to combine these two references. Indeed, as

discussed above, use of a panel, as in Terio, is counterintuitive to the goals of both the present Application and Uotila, which is for the safety of the passengers in the vehicle. That is, the only motivation is the motivation **NOT** to combine these two references. Accordingly, withdrawal of this rejection is respectfully requested.

### Rejections of Respective Claims

In view of the extended series of rejections set forth in the current Office action, the following detailed discussion of the rejections of the respective claims is provided in order to ensure that Applicants' response is fully responsive to all grounds for rejection.

Claims 2 and 3 are dependent from Claim 1 and therefore incorporate all of the elements present in parent Claim 1, in addition to the further limitations included in the respective dependent claims. They are considered allowable for essentially the same reasons discussed above with respect to parent claim 1, and further in view of the additional limitations included in the respective claims. (Similarly, when not discussed specifically herein, it is respectfully contended that the other dependent claims at issue are allowable for essentially the same reasons given with respect to all claims from which they depend, along with the further limitations included in each.) Claim 2 is further distinguished over the Uotila reference in its recitation that "the portions of the strip are joined with fasteners...." The strip has been defined in parent Claim 1 as a "flexible strip arranged to secure the net to the anchors" Nothing in Uotila or Terio discloses or suggests that a strip arranged to secure a net to the anchors may also be "joined together in a manner susceptible to being pulled apart under a load that is less than a load capacity of the strap." Instead, Uotila teaches that head ropes and foot ropes (See column 3, lines 41-43 and column 4, lines 56-58 of Uotila), cables, extensions of portions of the nets, etc., are to be connected on either side of and therefore joined by a third element, i.e., the braking devices 4, 5. Nowhere does Uotila suggest that the braking means 4, 5 can be the same element as the ropes, straps, ribbons, or cables used to connect the net to one or more anchoring means. Regarding Claim 3, again, nothing in Uotila can be interpreted as a suggestion that the sacrificial stitches can be formed in the head ropes or foot ropes connecting the net to the anchoring means.

Newly amended Claim 5, which is dependent from Claim 1, is believed allowable for essentially the same reasons given above with respect to Claim 1. Claim 5, along with Claims 16, 22, 23-28, 32, and 49 are also clearly distinguished over the references in their recitation that the

“sacrificial panel comprising means for deflecting vehicles that collide only tangentially with the deceleration-limiting barrier.”

As previously noted, nothing in either of the cited references teaches or suggests such a structure, and nothing in the references suggest the possibility of reconstructing the barriers of Uotila and/or Terio to incorporate such a means for deflecting vehicles. (Support for this terminology may be found in Applicants’ specification at page 3, lines 8-10, and page 13, lines 5-11.) This feature would be of no interest to or relevance to Terio, in which it is desired to stop the terrorists’ vehicle in its tracks, rather than deflecting the vehicle, or for Uotila, in which the purpose of the barrier is to capture the vehicles rather than deflect them.

Claims 5 – 9 are dependent upon Claim 1 and are therefore believed allowable for substantially the same reasons provided above with respect to Claim 1, and further in view of the additional limitations incorporated therein.

Regarding Claims 14, 16, 17, and 21, independent Claim 14 incorporates substantially all the elements presented in Claim 1 and is therefore believed allowable for essentially the same reasons given with respect to the rejection of Claim 1. Claim 14 is clearly distinguished over the references in its recitation of a “first sacrificial panel adapted to hold up the net in a vertical position.” This distinction, and the lack of any teachings of such a structure in any of the references, has been previously discussed. As previously discussed with respect to amended Claim 16, nothing in the cited art suggests a first sacrificial panel comprising means for deflecting vehicles that collide only tangentially with the deceleration-limiting barrier.

Claims 18 – 20 are dependent from Claim 14 and are therefore believed allowable for essentially the same reasons provided above with respect to Claim 14, and further in view of their



respective further limitations considered in combination with the combinations recited in the parent claim.

Independent method Claim 22 was also rejected under Section 103 under Uotila in view of Terio. As presently amended, the claim is clearly distinguished over Uotila and/or Terio in any combination other than one based on hindsight in view of Applicants' own teachings. Nothing in the art suggests the method step of supporting a net with a first sacrificial panel that is also capable of deflecting movable vehicles colliding tangentially therewith. Additionally, nothing in the art suggests the step of decelerating the moving vehicle using energy absorbing straps that are also attached to the net.

Claims 25 and 26 are dependent from Claim 22 and are believed allowable for essentially the same reasons given above with respect to Claim 22, and further in view of their respective further limitations considered in combination with the combination recited in the parent claim

Claims 29-32 are dependent upon Claims 6, 10, 17, and 22 and are respective sets of the claims discussed hereinabove and are considered allowable over the cited art for essentially the same reasons provided hereinabove with respect to their respective parent claim(s), and further in view of the additional limitations incorporated therein, considered in combination with all of the claims from which they each are dependent.

#### Rejections Under 35 U.S.C. 102(b)

Claims 33-37, 44, and 45 were rejected under 35 U.S.C. 102(b) as being anticipated by Uotila. Applicants respectfully submit that all the elements and limitations of the combinations of elements recited in Claims 33-37, 44, and 45 are NOT found in Uotila. Invalidity for anticipation under Section 102 requires that all the elements and limitations of the claim are found within a single prior-art reference. Carella v. Starlight Archery and Pro Line Co., 804 F.2d 135, 138, 231 USPQ 644, 646 (Fed. Cir. 1986); RCA Corp. v. Applied Digital Data Systems, Inc., 730 F. 2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984). In applying the Section, the

claim terminology must be given their ordinary and customary meaning in light of the specification. Further, it is not permissible for the Examiner to assign any interpretation that might be possible from dictionary definitions. Instead, the terms must be interpreted in context, in light of Applicants' specification and drawings, and in accordance with the interpretations commonly used in the art. As previously noted: "It is the use of the words in the context of the written description and customarily by those skilled in the relevant art that accurately reflects both the "ordinary" and the "customary" meaning of the terms in the claims." [MPEP Section 2111.01]

Applicants further maintain that a person of ordinary skill in the field would agree that there are substantial differences between the claimed invention and Uotila. (See above discussion.) For there to be anticipation under 35 U.S.C. 102, there must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention. *In re Scripps Clinic & research Foundation, Revlon, Inc., and Rorer Group Inc. v. Genetech, Inc. and Miles Inc. and Scripps Clinic & Research Foundation and Revlon, Inc. v. Chiron Corporation*. Thus, and in view of the above amendments to the claim and the following remarks, Applicants respectfully request reconsideration and withdrawal of this rejection under 35 U.S.C. 102.

Independent Claim 33, as presently amended, is believed to be distinguished over Uotila, and reconsideration is respectfully requested. Claim 33 is believed allowable over the cited references, alone or in any combination suggested by the art, in its recitation of receiving means, anchoring means, and means for decelerating a moving body in a controlled manner, the means for decelerating a moving body defined as:

means for decelerating the moving body in a controlled manner to thereby limit the deceleration thereof to below a predefined maximum deceleration level, the means for decelerating the moving body comprising at least one flexible, energy absorbing strap connected intermediate the receiving means and the anchoring means for receiving forces exerted longitudinally along the length of the strap upon impact by a moving body upon the receiving means, the flexible, energy absorbing strap which is connected intermediate

the receiving means and the anchoring means for receiving forces exerted longitudinally along the length of the strap being folded upon itself to form at least one loop of mutually adjacent, doubled lengths of strap, the mutually adjacent lengths of strap being stitched together by stitches formed through the mutually adjacent lengths of strap, the tensile strength of the stitches being less than that of the strap and being sufficiently low that they are ripped apart by the forces applied along the length of the strap by the moving body, the strap being of sufficient tensile strength to retain longitudinal continuity in the event the at least one loop is pulled apart upon the stitches being ripped apart by said longitudinal forces.

It is respectfully asserted that the combination of elements recited in claim 33 is not shown in Uotila and provide important advantages not possible in the structures of either of the cited references. For example, Uotila discloses a net structure requiring a multiplicity of interconnected braking devices, ropes, anchoring devices, etc., and includes no suggestion that a means for decelerating a moving body, such as a vehicle, could comprise a strap connected intermediate a receiving means (e.g., a net) and anchoring means, wherein the strap includes one or more stitched loops formed in the strap itself, and wherein the strap itself is of sufficient tensile strength to retain longitudinal continuity in the event one or more of the stitched loops formed in the strap are pulled apart by forces applied longitudinally along the strap. Instead, the Uotila system incorporates a plurality of foot ropes and head ropes connected at opposite ends of braking devices (4), (5) and includes no teaching or suggestion that the foot ropes or head ropes themselves could be stitched together to form braking devices or energy absorbing means. As shown in Figures 5 and 6 of Uotila, the net (1) is integral with or is connected at opposite ends by a heavy ropes, or cables, or two such elements, which in turn must be integral with or securely fastened between the net and the braking devices (4), which in turn are connected to additional ropes that extend to and are connected to the anchoring vehicles or anchors.. Although the head ropes and foot ropes shown in the drawings are not described in detail in the Uotila patent, it may be assumed from the discussion at Column 1, line 60 et seq. that they are equivalent to or extensions of the "heavy rope" extending along the upper portion of the net. Another set of heavy ropes are connected to either end of another set of braking devices (5). Thus, the only

braking devices shown or suggested in Uotila comprise commercial braking devices, which are independent of the heavy ropes or cables interconnecting them, and each of the braking devices (4), (5) must be securely connected at their respective end portions to a heavy rope line of high strength, capable of sustaining the heavy forces entailed in decelerating a vehicle. In some embodiments, these braking devices are apparently fastened at one of their ends to a heavy rope associated with the net itself. Thus, there is a vague reference in Uotila to lines which are stitched together within the brake assemblies 4, 5, but it is clear from the Figures of Uotila that whatever lines are present within the housings of the brake assemblies 4 and 5 are not the same as or continuous with the external cables connected to opposite ends of the brake assemblies. Again, this difference is believed to be technically and economically significant in that, in Applicants' claimed structure, the need for separate, independent brake assemblies is obviated, and the additional weight and costs of such separate and independent brake assemblies is eliminated or substantially reduced. Nothing in Uotila teaches or suggests the use of an energy absorbing strap connected between the anchor and the net, wherein the strap itself is capable of absorbing decelerative forces upon impact of a vehicle. Clearly, Applicants' claimed combination is of substantially simpler construction than that of Uotila (wherein multiple braking devices are required, each of which must be securely fastened to lengths of heavy rope) and Applicants' system as claimed in Claim 33 therefore does not require the use of multiple braking devices, in addition to multiple heavy connecting ropes or line.

The subject matter recited in Applicants' Claim 33 is described in Applicants' specification, e.g., at page 3, lines 5-8, wherein it is disclosed that the net or mesh is secured to the anchors by energy absorbing straps, the straps providing a controlled resistance to the tensional loads over a predefined displacement or stroke. At page 8, lines 1- 21, the structure and process of deceleration of a moving object is described, wherein it is disclosed that the strap is continuous and of sufficient load capacity ( $F_s$ ) that it will not break, even if the loops are ripped out (see page 8, lines 11-15). Clearly, such structural relationships are not taught or suggested in the cited art, and they provide important advantages in that a far simpler and lighter rigging may be used, and wherein the need for separate, independent braking devices that must be securely

fastened to multiple heavy ropes, etc., is obviated. Accordingly, it is respectfully contended that Claim 33 is clearly distinguished over the cited art and should be allowed.

Claim 34 is dependent upon Claim 33 and is believed allowable for essentially the same reasons provided above with respect to Claim 33. Claim 34 is further distinguished over the references in its recitation of stitches formed in a pattern extending “longitudinally along adjacent lengths of the strap.” Claim 33, of course, must be considered in context and in combination with parent Claim 33. It includes the limitations of Claim 33 in addition to the additional limitations those incorporated in Claim 34 itself. Thus, its claimed elements must be considered in combination with the limitations recited in Claim 33, e.g., wherein the strap is recited as comprising a flexible strap comprising means for sustaining longitudinal forces thereon and being of sufficient tensile strength to retain longitudinal continuity even in the event the at least one loop is pulled apart upon the stitches being ripped apart by longitudinal forces. Nothing in the cited art teaches or suggests such a combination of elements.

Claim 35 is dependent upon Claim 35 and is believed allowable for essentially the same reasons provided above with respect to Claims 33 and Claim 34. It is further distinguished over the references in its recitation of such a combination of elements in combination with several newly recited limitations (supported in Applicants’ specification at page 7, lines 11-15). As set forth at lines 19-21 of page 7, the longitudinal stitches provide a smoother and more continuous release as the loop 12 is pulled apart. Again, the combination of elements set forth in Claim 35 and parent Claim 33 are not shown or suggested in the cited art; and the claim should be allowed.

Independent Claim 36 incorporates most of the limitations previously discussed with respect to Claim 33 and is believed allowable for essentially the same reasons provided above with respect to Claim 33. Claim 36 is additionally distinguished over the cited art in its recitation of an energy absorbing strap connected intermediate the means for receiving and retaining the moving body and the anchoring means, wherein the strap has a plurality of loops formed therein, each loop being stitched together by sacrificial stitching. Again, the strap itself, with its multiple stitched loops, comprises means for decelerating the moving body in a

controlled body. This is clearly distinguished from and in contrast with the structure of Uotila, wherein the multiple heavy ropes or lines merely serve to interconnect the various components, e.g., connect the braking devices to the net, and connect the braking devices to the anchors, etc. The multiple, energy absorbing loops permit greater stroke and, therefore, more flexibility in adjusting the levels of decelerative forces, as discussed in Applicants' specification at pages 9 and 10. For all of the above reasons, and also in view of the discussion hereinabove with respect to Claim 33, it is respectfully urged that Claim 36 should be allowed.

Claim 37 is dependent upon Claim 36 and is believed allowable for essentially the same reasons provided above with respect to Claim 36, and further in its recitation that the load capacity of the energy absorbing strap is expressed by the equation:

$$Load = Fr \cdot (Xm1 + Xm2 + Xm3 + \dots + Xmi)$$

wherein the energy absorbing stroke of each loop comprises the length of the respective stitched portion formed therein, and wherein the sum of  $Xm1$ ,  $Xm2$ ,  $Xm3$ , ...,  $Xmi$  represents the total stroke provided by the individual loops. (This structure and relationship is discussed in Applicants' specification at page 9, lines 5-11.) Nothing in the cited art teaches or suggests such a combination.


Independent method Claims 44 and 45 recite the process of applying the combination of elements of Claims 33 and 36, respectfully, and are believed allowable for essentially the same reasons. They are further considered allowable in that the claimed methods of decelerating a moving body are not shown or suggested in any of the cited art, alone or in any combination within the skill of the art.

With respect to new Claims 46 – 49, the discussion of these claims in the initial portion of the remarks is believed to establish their patentability in view of the cited art, in any combination within the skill of the art.

## **CONCLUSION**

For all of the foregoing reasons, Applicants request that the Examiner reconsider the rejection and allow all of the pending claims of the application. If the Examiner believes that an interview would facilitate resolving any outstanding issues, the Examiner is requested to contact the undersigned.

Respectfully submitted,



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